WLPCS
Geometry

Name: _____ Date: _____ Per.: _____

Circle Equation Practice

REMEMBER: $(x-h)^2 + (y-k)^2 = r^2$ is the equation of a circle where (h, k) is the center and r is the radius.

Example: $(x-3)^2 + (y+4)^2 = 100$

center: $(3, -4)$

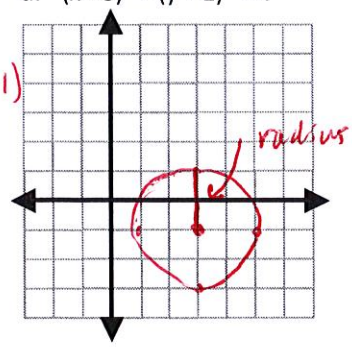
radius: $10 \rightarrow (\sqrt{100})$

1) Graph the following circle:

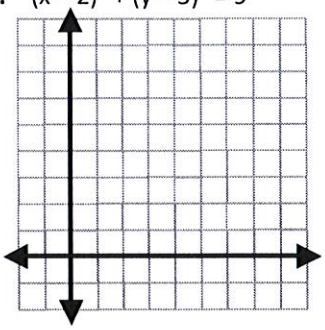
a. $(x - 3)^2 + (y + 1)^2 = 4$

center: $(3, -1)$

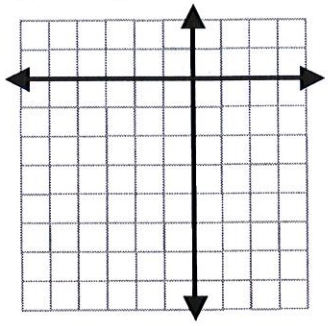
radius: 2



b. $(x - 2)^2 + (y - 5)^2 = 9$



c. $(y + 4)^2 + (x + 2)^2 = 16$



2) For each circle: Identify its center and radius.

a. $(x + 3)^2 + (y - 1)^2 = 4$

Center:_____

Radius:_____

b. $x^2 + (y - 3)^2 = 18$

Center:_____

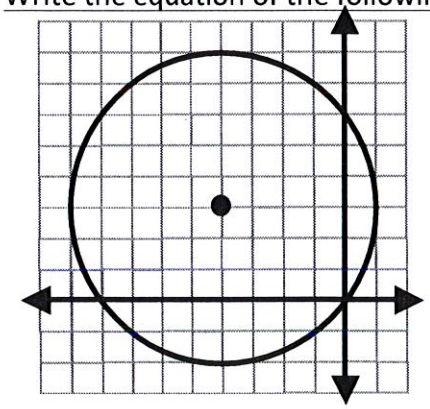
Radius:_____

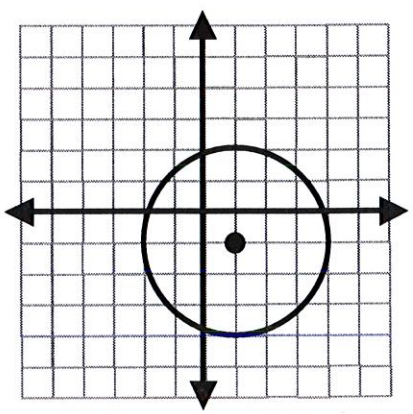
c. $(y + 8)^2 + (x + 2)^2 = 72$

Center:_____

Radius:_____

3) Write the equation of the following circles:





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$(x-h)^2 + (y-k)^2 = r^2$

Directions: Use the given center and radius to write the equation of the circle in standard form.

1. C(-16, 4); r = 1

2. C(14, -12); r = $\sqrt{3}$

h k r

$(\sqrt{3})^2 = 3$

$(x-14)^2 + (y+12)^2 = 3$

3. C(0, -5); r = $\sqrt{185}$

4. C(0, 13); r = 7

5. C(-6, -12); r = 3/4

6. C(13, -2); r = 5

7. C(2, -12); r = 2

8. C(7, 0); r = 7

9. C(-3, 8); r = 4

10. C(6, -2); r = 12/13

★ REMEMBER TO SQUARE THE RADIUS! ★